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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,113	11/04/2005	Paolo Giordani	H 5716-I	2619

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HENKEL CORPORATION
1001 TROUT BROOK CROSSING
ROCKY HILL, CT 06067

EXAMINER

ZHENG, LOIS L

ART UNIT	PAPER NUMBER
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1793

MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/531,113

Applicant(s)

GIORDANI ET AL.

Examiner

LOIS ZHENG

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-5 and 16-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-5 and 16-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/13/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

1. Claims 1-2 and 6-15 are canceled in view of applicant's preliminary amendment filed 13 March 2005. New claims 16-31 are added in view of applicant's preliminary amendment. Therefore, claims 3-5 and 16-31 are currently under examination.

Claim Objections

2. Claim 17 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 17, which ultimately depends on independent claim 3, recites the complex fluoro acids and/or anions having a concentration of from 30 to 300mmoles per liter, which has a broader scope than the complex fluoro acid and/or anions concentration of 50 to 300 mmoles per liter as recited in the independent claim 3. Therefore, claim 17 fails to further limit the subject matter of claim 3.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 5 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dolan US 5,427,632(Dolan) in view of applicant's admitted prior art.

Dolan teaches a process of treating metal surfaces such as iron, steel, zinc or aluminum(col.2 lines 7-17) to form a protective coating on the metal surface. The coating solution in the process of Dolan comprises fluorosilicate in an amount of at least 0.01 M/kg, phosphoric acid(i.e. strong acid) in an amount of at least 0.015M/kg and hydrogen peroxide in an amount of 1-9%(col. 4 lines 20-49, col. 5 line 3- col. 6 line 3). Dolan further teaches that the metal surface is first cleaned(i.e. pickling) to remove contaminants(col. 7 lines 12-26)

Regarding claims 3, 5 and 16-17, even though Dolan does not explicitly teach that its coating process is applied to stainless steel surfaces, one of ordinary skill in the art would have found it obvious to have applied the process of Dolan to the claimed stainless steel surfaces with expected success since Dolan teaches that its process is suitable for iron and steel surfaces, which includes the claimed stainless steel surface.

In addition, the component concentrations in the coating solution of Dolan overlap the claimed component concentrations. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed component concentration ranges from the disclosed concentration ranges of Dolan would have been obvious to one skilled in the art since Dolan teaches the same utilities in its' disclosed component concentration ranges.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dolan US 5,427,632(Dolan) in view of applicant's admitted prior art.

The teachings of Dolan are discussed in paragraph 4 above.

However, Dolan does not explicitly teach the claimed hydrogen peroxide stabilizer.

The instant specification admits that hydrogen peroxide stabilizers are also well-known in the art in order to prevent excessive decomposition of hydrogen peroxide (last paragraph on page 7).

Regarding claim 4, it would have been obvious to one of ordinary skill in the art to have incorporated known hydrogen peroxide stabilizers as admitted by the instant specification into the coating solution of Dolan in order to prevent excessive decomposition of hydrogen peroxide as known in the art.

6. Claims 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greene US 4,298,404 (Greene).

Greene teaches a process of treating metal surfaces such as zinc plated steel using a coating solution comprising film-forming agents in the amount of about 0.2g/l to about 25g/l each, for example, about 25g/l of sodium silicofluoride (col. 5 lines 7-9), 4g/l of ferric nitrate (col. 5 lines 1-20). In addition, Greene further teaches strong acids such as sulfuric and phosphoric acids are used to control the hydrogen ion concentration in the coating bath in order to maintain the pH of the coating bath within the desired range (col. 6 line 33 – col. 7 line 11). Greene does not teach the presence of simple fluoride ions and/or free hydrofluoric acid in its coating solution.

Regarding claims 18-19 and 21, the preamble "for pickling steel" is merely stating the intended use for the claimed process solution, therefore, does not lend patentable weight to the instantly claimed process solution.

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In addition, the silicofluoride and the Fe(III) ion concentrations as taught by Greene reads on the claimed silicofluoride and Fe(III) concentrations.

Furthermore, Example 18 of Greene teaches reacting ferric chloride with ammonium fluoride to prepare film-forming agent ammonium ferric fluoride(col. 12 lines 15-17). Therefore, the presence of chloride ions can also be present in the coating solution of Greene. Even though Greene does not explicitly teach the claimed amount of chloride ions, one of ordinary skill in the art would have found it obvious to have routinely optimized the amount of ferric chloride or the concentration of chloride ions in the coating solution of Greene in order to produce the desired amount of film-forming agent.

Lastly, even though Greene does not explicitly teach the claimed strong acid concentrations, one of ordinary skill in the art would have found it obvious to have routinely optimized the concentrations of sulfuric and phosphoric acid in the coating solution of Greene in order to maintain desired pH in the coating solution.

Regarding claim 20, the claimed redox potential is an inherent property of the claimed process solution. Since Greene teaches a process solution that is significantly similar to the claimed process solution, one of ordinary skill in the art would have found it obvious that the Greene's coating solution would also have significantly similar redox potential as claimed.

Regarding claim 22, Greene further teaches that its coating solution comprises organic activating/complexing agents. Therefore, the coating solution of Greene can be a gel or a pasted based on the broadest reasonable interpretation.

7. Claims 23-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greene, and further in view of Dolan.

The teachings of Greene are discussed in paragraph 6 above. However, the coating solution of Greene is applied to zinc plated steel not on steel as claimed.

The teachings of Dolan are discussed in paragraph 4 above.

Regarding claims 23-24, 26 and 30, it would have been obvious to one of ordinary skill in the art to have applied the coating solution to steel surface with expected success since Dolan teaches that a similar coating solution that can be applied to zinc surfaces can also be applied to steel surfaces. In addition, since the coating solution is applied to the metal surface as taught by Greene in view of Dolan, the process solution of Greene in view of Dolan is moved relative to the surface of the steel as claimed.

Regarding claim 25, since Greene in view of Dolan teaches a substantially similar steel surface treatment process as claimed, one of ordinary skill in the art would have found it obvious that the claimed oxidization of iron(II) ions to iron(III) ions is also taking place in the coating process of Greene in view of Dolan.

Regarding claims 27-29 and 31, the instant claims are rejected for the same reasons as stated in the rejection of claims 18-20 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LOIS ZHENG whose telephone number is (571)272-1248. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LLZ


ROY KING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700